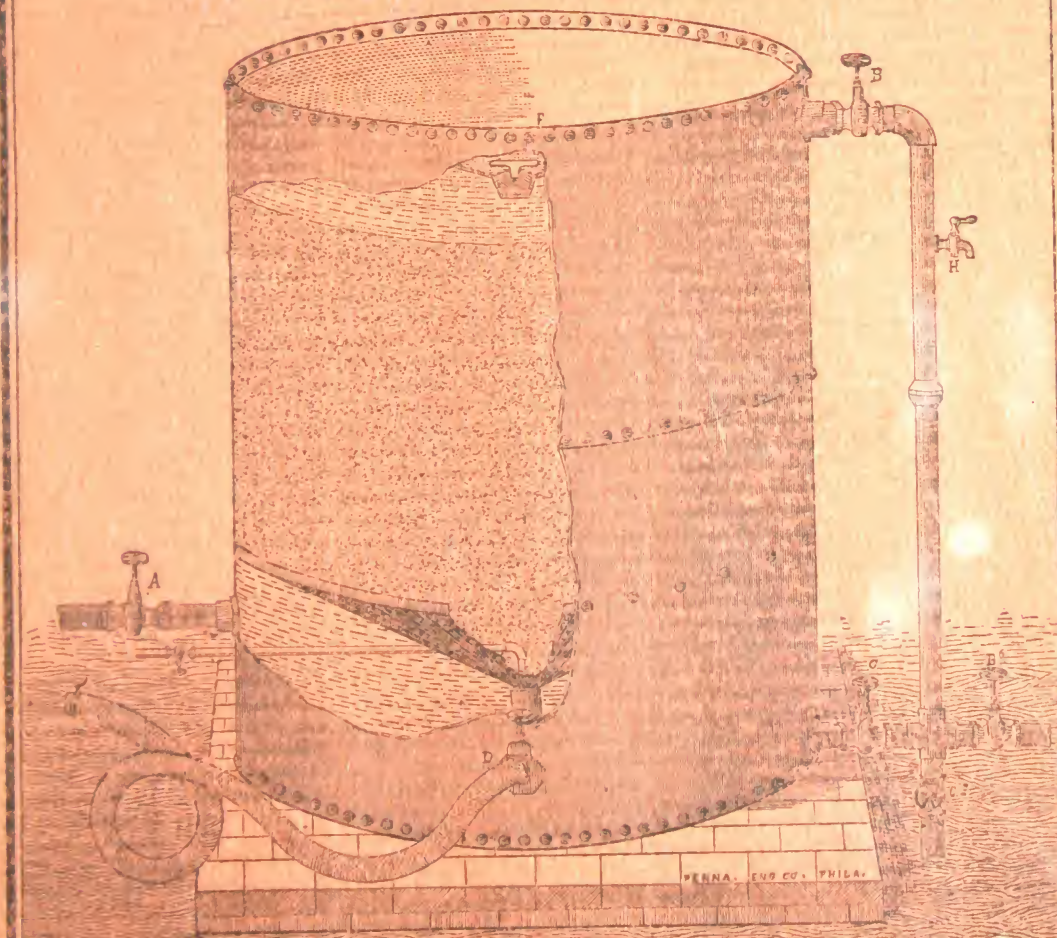


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Dr. W. H. Green

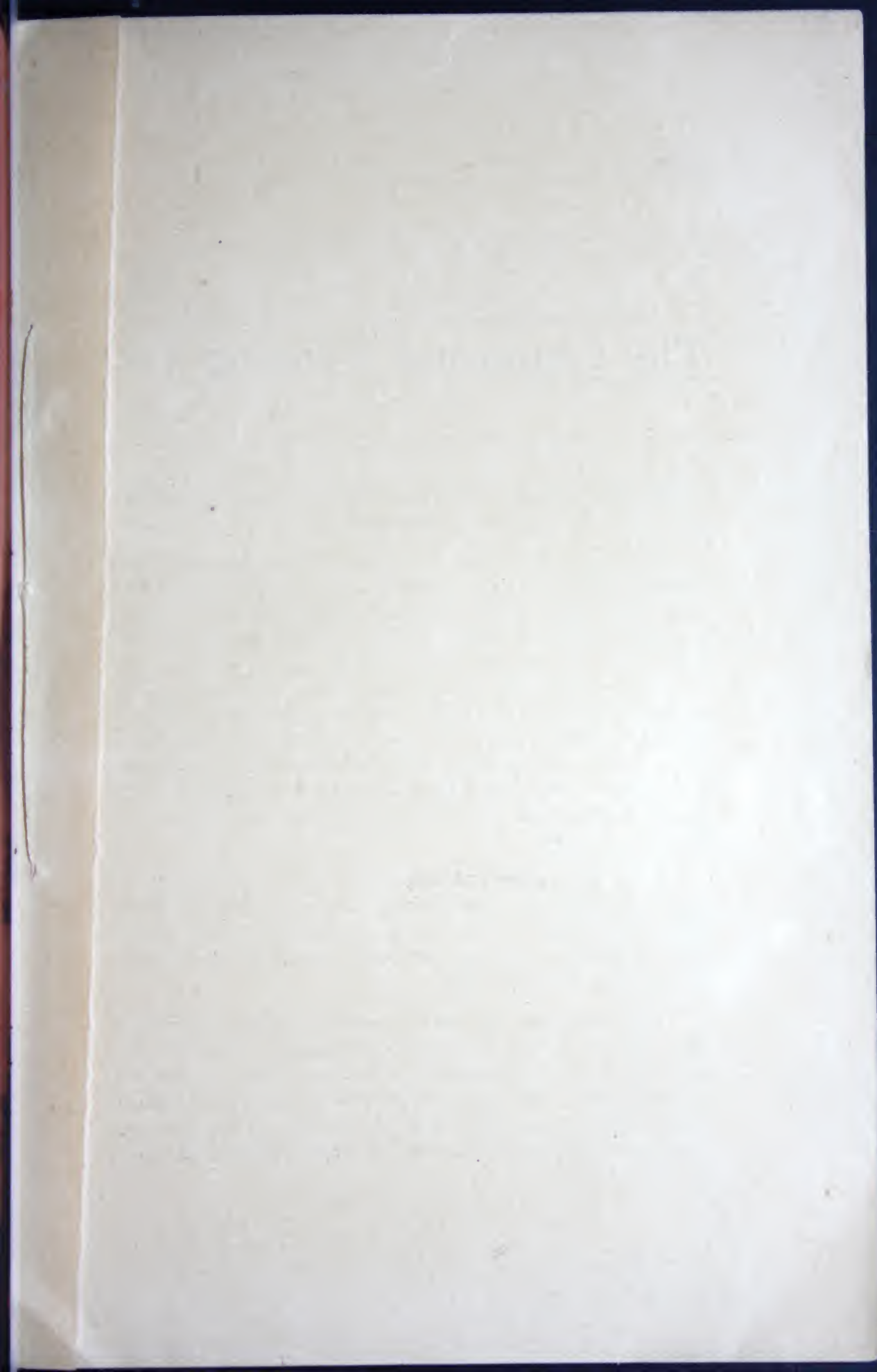
THE CONTINENTAL FILTER MFG. CO.

36 South Fifth Street,
Philadelphia Pa.



PERNA. ENG CO. PHILA.

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The Continental Filtering Co.

In placing our new and improved FILTERS before the public, we desire to call attention to a few facts.

Water is of the utmost importance to mankind. No other element enters so largely (except the air we breathe,) into the economy of Nature for the promotion and preservation of health. No other element so potent in carrying and disseminating the germs of disease and the seeds of death. There is scarcely an issue of the public press in any part of the country, that does not call the attention of readers to the ravages of disease, superinduced in whole or in part by the use of impure water for drinking or culinary purposes, the bath and the washing of clothing. Everywhere we find physicians writing upon this subject, and urging the absolute necessity of the having of pure water that health may be preserved.

It is well known that bright, clear water is an essential in many manufacturing establishments, among which are Paper Mills, Pulp Works, Woolen Mills, Knitting Mills, Dye Houses, Sugar Refineries, Laundries, Breweries, Hotels &c., and also for the supplying of steam boilers.

This knowledge has had the result of inducing thoughtful men, men of culture and scientific attainments, to devote much time and study, to the problem of how to provide a water filter for general use. The result of their labor is seen in the multitude of filters offered to the public from time to time, all of which have some merit, but none of them being so nearly perfect as that which we have to offer.

The materials used in filtering are well known, hence need no special mention.

What we particularly desire to bring prominently before the public is OUR APPARATUS OR FILTER, which we claim to be the most perfect yet invented. We make this claim because of the facility with which the apparatus and the filtering material can be thoroughly washed and cleaned.

We do not use coagulators of any kind; deeming them utterly useless in a properly constructed filter.

An examination of the following illustrations will make our system of filtering plain, and the arguments we present will prove the superiority of our filters for small or large quantities of water under high or low pressure.

FIGURE 1.

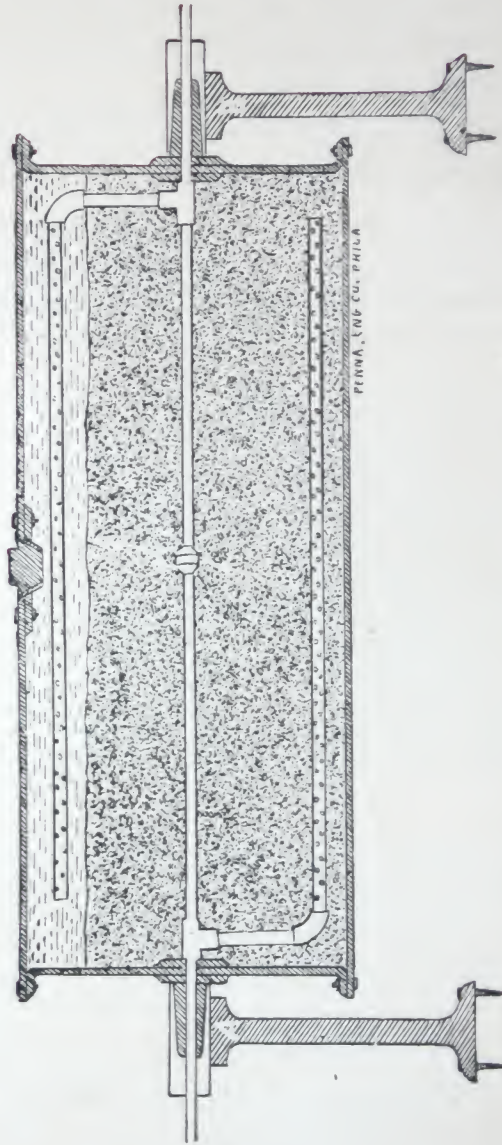


FIGURE I.
ROTARY FILTER.

Represents our rotary filter for household use and supplying of steam boilers; it is very simple in construction and can be easily cleaned.

The cut shows filter in position to receive the unfiltered water at "A," flowing downward through the perforated pipe, passing upwards through the filtering material and escaping clear and bright through perforated pipes near the top of tank to "B."

This filter rests upon ground joints, and can be made to revolve upon its axis at the pleasure of the operator, who by this means can thoroughly wash and clean the filtering material; the dirty water and foul matter passing off through the waste pipe.

When desirable the perforated pipes can be taken out and replaced, and all the filtering material can be removed from the filter at any time. Should the water be particularly foul and contain large quantities of animal or vegetable matter or slimy deposit, the filter and filtering material can be purified in a few minutes by the application of our steam washing attachment.

This style of filter will be made in the following dimensions:

24 in. long,	10 in. diameter	$\frac{1}{4}$ in. supply pipe.
36 "	10 "	$\frac{3}{8}$ "
42 "	12 "	$\frac{1}{2}$ "
48 "	14 "	$\frac{3}{4}$ "

FIGURE 2.

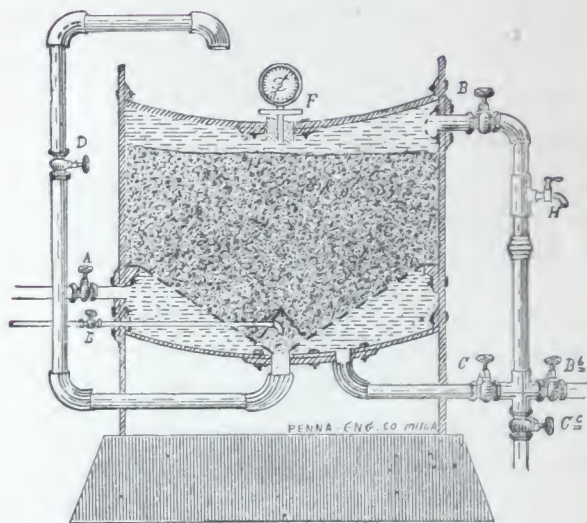


FIGURE 2.

Represents a small sized vertical filter with perforated metallic cone supporting the bed of filtering material. Under the perforated cone is the receptacle for water from the main pipe or other source of supply, which enters the filter at "A." The water percolates upwards through the filtering material and is received pure into the upper part of the tank ready for distribution through the service pipes "B" and "B b."

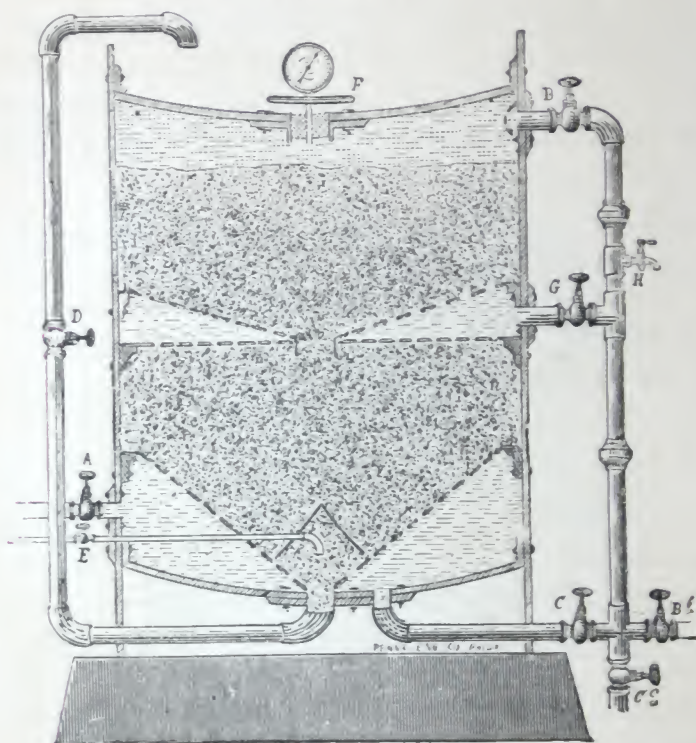
In cleansing we close "B b" and open "C" and "C c," allowing a free flow of water from "A," around the cone and bottom of tank to "C c." This disposes of the densest accumulation of filth and may be resorted to frequently if the water let into the filter is particularly foul.

When it is deemed necessary to remove the accumulation arrested by the filtering material, we close all valves except "A," open "D" and steam valve "E," and the lower portion of the filtering material is driven by the pressure of the water and steam to the sunken top of the tank, being thoroughly washed by the steam in its passage up the siphon pipe. Thus the lower part of the filtering material which contains nearly all of the arrested matter is cleansed and placed on top of the tank; the upper portion of filtering material which contains very little sediment descends to the bottom of the tank, where, after the removal of first part the equilibrium is destroyed, the material, not now being heavy enough to withstand the pressure from the water supply and steam pipes, is kept in constant motion, tumbling up and down and giving us just what is indispensable to loosen all foreign matter from the filtering material; the impurities rise with the water and are discharged into waste pipe "B" and "C c." By opening valve "F" the material resting on top of tank will descend, being rinsed in its passage through the water in the top of tank, the impurities escaping as before described through valve "B." When the water appears bright and clear through the small faucet "H" it proves that the filter is clean and prepared for further use. The time required to thus thoroughly cleanse the filter and filtering material is but a few minutes. This filter is designed for use where vertical space is limited.

FIGURE 3.

Represents a filter substantially the same as figure 2, and to be managed in same manner. It is designed for filtering very turbid water under extra pressure, has two filtering beds and an additional valve "G" which should be closed and opened with "B."

FIGURE 3.



Filters 2 and 3 are similar in construction to that represented upon the cover and opposite page, which differs from them only in the use of a hose in place of the stationary siphon pipe with valve "D." The hose enables the operator to deposit the filtering material at any suitable place, either near to or remote from the filter.

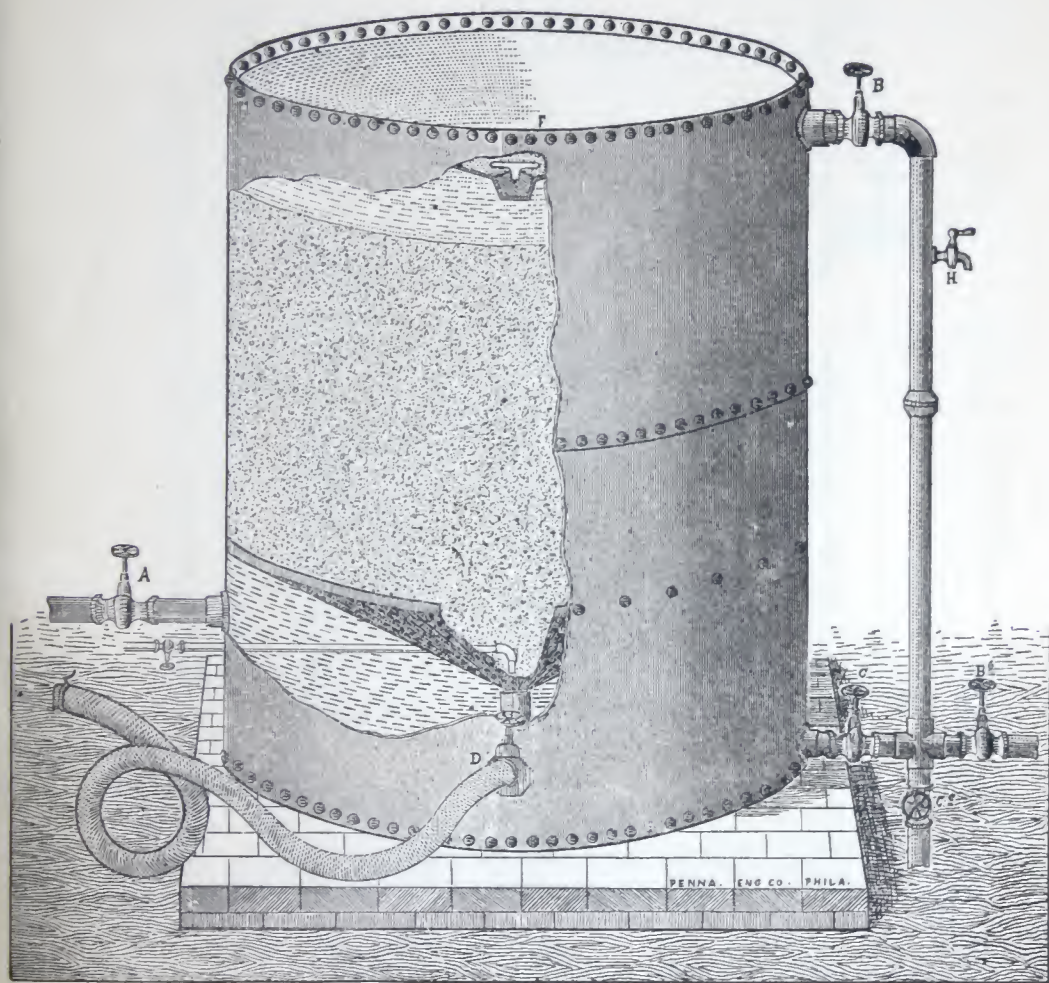


FIGURE 4.

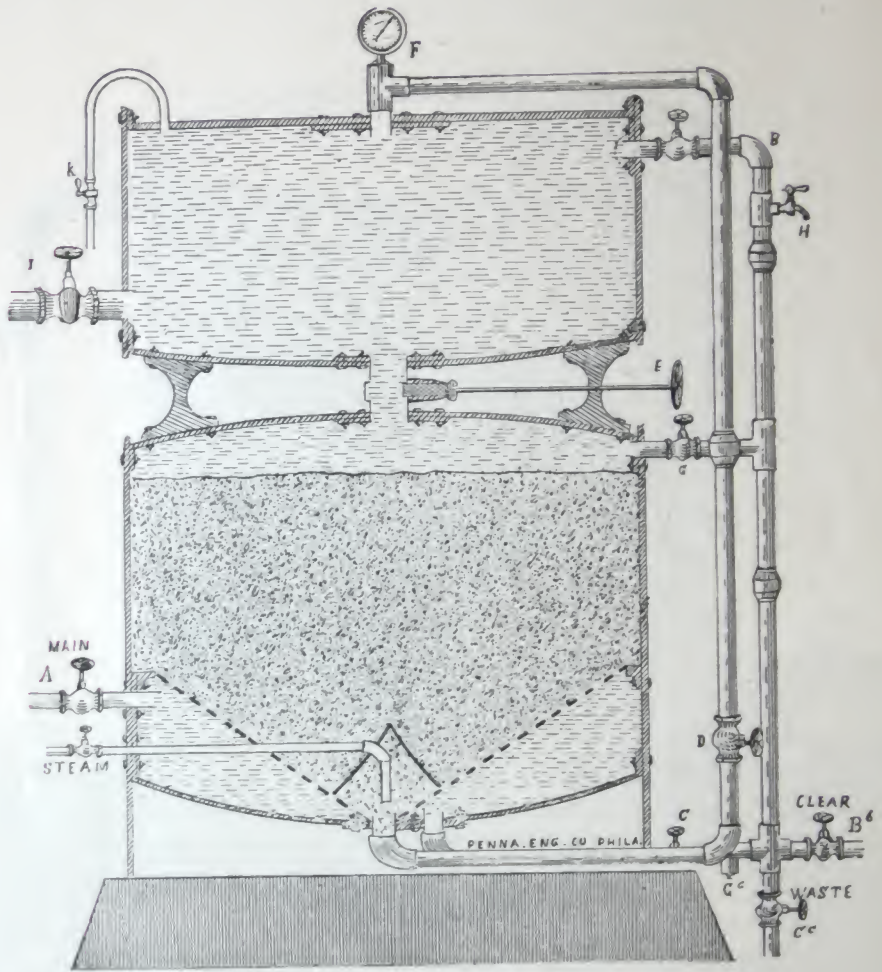


FIGURE 4.

Represents our improved circulating filter which is adapted for use in any required size, from the largest to the smallest capacity and is we think a PERFECT filter. It is built in two distinct compartments, the lower one being the filter proper with one or more filter beds and the upper a reservoir for pure water during activity of filter and a receptacle for the filtering material when it is being cleaned.

The filtering process is the same as in Nos. 2 and 3.

To cleanse the bottom of the filter, valve "A" being open, open valves "C" and "C c" all other valves being closed, allowing a free flow of water from "A" to "C c" around the bottom of the filter as described for Figures 2 and 3.

To thoroughly wash the filter and filtering material, valve "A" being open, open valves "B," "C c," "D" and steam valve, all other valves to be closed. The pressure of the water from "A" aided by the steam, will force all the filtering material down and up through siphon "D" and into upper tank at "F;" all foreign matter will be washed off of the filtering material in its passage by the hot steam and water. The filtering material thus washed will sink to the bottom of the upper tank being rinsed in the descent, the impurities will escape through valves and pipes "B" and "C c." By opening valves "E" and "G" the filtering material will descend into its original position at the bottom of the lower tank and any remaining impurities will escape through valve "G" to "C c." The operation as above described may be repeated and completed within a half hour; when it is shown at faucet "H" that the water received is perfectly clear it must demonstrate that the cleansing process was thorough.

The upper tank of this filter need not necessarily occupy the position indicated in the cut, but, may be located at any suitable place above the lower tank and it can be quickly emptied through valve "I" (which is of greater diameter than the inlet pipe) after opening air tube "K." This is an important feature in cases where a larger quantity of clear water is needed for immediate use than can be obtained through the inlet pipe.

Three years of careful testing of our filters convinces us and those who have them in use, that we have a perfect filter, and a little thought will convince most persons that however pure the general supply of water to the premises is, there are times when from freshets or other causes, much impure and injurious water is necessarily consumed, and that therefore, perfect safety can be secured only by placing such a guard upon the supply pipes, as will render the admission of deleterious matter impossible and a guard from which such matter can be readily and instantly removed.

Our filters are not expensive, but even if they were, it is demonstrable that no greater economy than a sure supply of clear, pure water can be introduced into the manufactory or household, and while enormous sums are expended annually by the public authorities; in cleansing the source of water supply and the channels of distribution for the public good, it is the duty of all consumers to see to it that the water used inside their dwellings is of such purity as to further the public effort to secure the health of all.

The strength of any system is simply the strength of its weakest part; the weakest place in the water supply is between the main and the sewer, and that place can be strengthened by a filter sure in its action and readily purified.

Upon receipt of inquiries embracing the following points of information for our guidance, we will at once supply estimate for a filter or filters of any required capacity.

- 1st. Maximum quantity of water to be filtered per hour.
- 2d. If supplied from water-works, designate diameter of pipe.
- 3d. What pressure would filter be subjected to?
- 4th. Character of unfiltered water.
- 5th. Whether water would or would not be supplied to filter by pumping.
- 9th. Would consumption of filtered water be uniform, or would large quantities be required at intervals?

OUR FILTERS

ARE MANUFACTURED UNDER U. S. LETTERS PATENT GRANTED TO

HENRY ROESKIE.

WE INVITE CRITICAL EXAMINATION.

Very Respectfully,

CONTINENTAL FILTER MANUFACTURING CO.,

36 SOUTH FIFTH STREET, PHILADELPHIA.

J. E. JOHNSON, Supt.





